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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,214	04/19/2004	Brian T. Holland	7774	2941

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EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/827,214

Applicant(s)

HOLLAND ET AL.

Examiner

Daniel S. Metzmaier

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004 & 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 12-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 30 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/30/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-31 are pending. Claims 12-29 have been withdrawn as directed to a non-elected invention.

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-11 and 30-31, drawn to a colloidal composition, classified in class 516, subclass 80.
 - II. Claims 12-29, drawn to methods of making a colloidal composition, classified in class 516, subclass 82.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Group II and Group I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process of Group II (see claim 12) does not require a metal as required in Group I (see claim 1).
3. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required

because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Michael B. Martin on July 20, 2006 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-11 and 30-31. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-29 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

7. Claims 4, 7, 9 and 30 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 4 is not further limiting since the specification only defines quaternary amines. Applicants have not set forth what other quaternary compounds are contemplated.

In claims 7 and 9, the limitation that “the metal is dispersed in a controlled manner” does not further limit the composition because without limitations as to the manner of control, the composition is the same as those of claim 6. Claim 7 suggest an element of desired or intentional form of dispersion without defining what is said element. Any method resulting in the desired product may be asserted to be controlled for the formation of the product.

Claim 30 is merely a restatement of claim 1. The preamble is given no patentable weight since industrial applicability would be present for enablement and the material is of the same scope as claim 1.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-11 and 30-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1 and 6, the claims define a silicate composition doped with a metal. It is unclear what is intended by the phrase “doped with a metal” since a metal has a zero valence and the examples appear to employ metal salts resulting in metal cations and/or metal silicates. The claims scope of the claims is indefinite since the presence of zero valent metal may be interpreted for the metals contemplated do not appear to be applicants’ intended scope.

Claim 5 is indefinite since it is unclear how the stabilizer correlates to the amount of the metal, e.g., directly, inversely, by a factor of 1, 10, 1000, 1 million.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-7, and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al, US 5,597,512. Watanabe et al (examples and claims, particularly claims 4 and 5) disclose making silica sols having 972 ppm and 1156 ppm of CaO. Watanabe et al (examples and claims) disclose the use of sodium hydroxide as a stabilizer as well as quaternary ammonium compounds (claims 4 and 5) as stabilizers. Watanabe et al (claims) disclose the use of MgO or CaO in the form of metal salts with silicic acid. Watanabe et al (column 1, lines 5-15) disclose the use of the sols as surface coating agents.

12. Claims 1-10 and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Finlayson et al, US 4,287,086. Finlayson et al disclose organic systems employing organophilic clay suspended in said organic systems. The organophilic clay is made organophilic by the addition of a quaternary amine. Said clay is inherently a layered material that is in colloidal form. Bentonite and hectorite are both montmorillonite clays. Hectorite is known to be a sodium/magnesium/lithium silicate. Bentonite is known as an aluminosilicates and would have had residual amounts of sodium/magnesium/calcium.

13. Claims 1-11 and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by S. Mintova et al, "Effect of the silica source on the formation of nanosized silicalite-1: an in situ dynamic light scattering study", Microporous and Mesoporous Materials, 55 (2002), pages 171-179. S. Mintova et al (2. Experimental) discloses the synthesis of nanosized silicalite-1 comprising tetrapropylammonium hydroxide (TPAOH) : 0.13 moles Na_2O : 25 SiO_2 in water and ethanol. The hydrothermal treatment results in the crystallized layered structure and the alkali metal, i.e., sodium is present in less than 2 wt% of silica.

14. Claims 1-11 and 30-31 are rejected under 35 U.S.C. 102(a) as being anticipated by Cundy et al, "Some observations on the preparations and properties of colloidal silicalites. Part I: Synthesis of colloidal silicalite-1 and titanosilicalite-1 (TS-1)", Microporous and Mesoporous Materials, 66 (2003), pages 143-156. Cundy et al (page 146, 2.2 Preparation of TS-1sols) discloses the preparation of titanosilicalite-1 sols with TPAOH having 6 mole % of titanium metal and discloses as little as 1 mole % titanium metal. The 1 mole % equates to less than 2 wt % of metal based on silica.

Conclusion

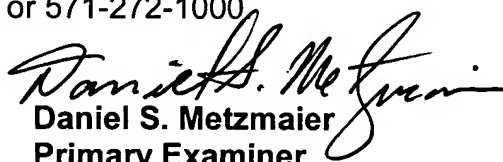
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM